

10. SOCIOECONOMICS

A variety of socioeconomic and demographic factors (such as income and poverty level) may be associated with increased exposure to environmental contaminants. A growing concern exists among physicians, researchers, and social scientists that people with low incomes and who reside in minority neighborhoods are more likely than other Americans to suffer adverse health effects from pollution and other environmental contaminants (Hearn, 1993). Other areas of concern for increased risk are hazardous occupations, unsatisfactory diets, and inadequate education.

10.1. POVERTY THRESHOLD ESTIMATES

The U.S. Bureau of the Census (1996) has estimated the poverty thresholds for 1995 in its publication, *Preliminary Estimates of Poverty Thresholds in 1995*. These data, presented in Table 10-1, are based on size of family unit and income. The Census Bureau data are accessible on the World Wide Web via the Internet. The U.S. Census Bureau's home page (Internet address: www.census.gov) contains information on the kinds of data available and instructions on how to conduct data searches, extract data, and download data files. Section 11 contains information on how to access U.S. Government data on the Internet.

10.2. INCOME LEVEL

Low income negatively affects many aspects of an individual's life, including housing, unemployment, diet, and access to education and medical care. The combined effects of living on a low income contribute to an increased risk of exposure to environmental pollutants. For a variety of reasons, often a greater percentage of minorities in the United States are living in poverty than are whites--the majority population.

U.S. Bureau of the Census data indicate that in 1990 the percentage of persons in the United States living below the poverty level (defined by the Census Bureau as \$13,359 per year in 1992 for a nonfarm family of four) was 13.5% for all races, 10.7% for whites, 31.9% for blacks, and 28.1% for Hispanics (U.S. Bureau of the Census, 1992).

10.2.1. Digest of Education Statistics (U.S. Department of Education, 1995)

The U.S. Department of Education (1995) presented information on poverty rates and income by State for 1990 and 1993. These data are based on the U.S. Bureau of the Census Current Population Reports. Data for household income and poverty rates by State are presented

in Table 10-2. Poverty status of persons, families, and children under 18, by race/ethnicity are presented in Table 10-3.

10.2.2. March Current Population Survey (U.S. Bureau of the Census, 1995b)

The U.S. Bureau of the Census (1995) characterized the poverty status of persons in the United States by gender. Data are presented for the years 1966 to 1994 in Table 10-4.

10.2.3. Trends in Indian Health (U.S. Department of Health and Human Services, 1993)

A more complete economic profile of ethnic groups in the United States, including level of education attained, rate of unemployment, household income, and percentage of age groups living below the poverty level, is presented in Table 10-5. This study was conducted to specifically evaluate the Native American and Alaska Native populations. However, data for other population subgroups were evaluated for comparison purposes. The data in Table 10-5 indicate that blacks, Hispanics, and Native Americans have a greater percentage of their populations living below the poverty level than do whites. Most significantly, for blacks, Hispanics, and Native Americans, approximately one-third to almost one-half of the total population under the age of 18 are living in poverty (U.S. DHHS, 1993). Table 10-5 also indicates that the percent of unemployed blacks, Hispanics, Native Americans, and Alaska Natives are significantly higher than the unemployment levels for whites and higher than for all races (U.S. DHHS, 1993).

10.2.4. Inner-City Asthma--*The Epidemiology of an Emerging U.S. Public Health Concern* (Weiss et al, 1992)

Weiss et al. (1992) addressed the problems lower income groups often experience in obtaining consistent medical care. The authors suggest that this factor contributes to the increased severity of childhood asthma in inner-city children. Lower income inner-city residents often lack transportation needed to get to medical facilities, and once there, they may experience communication problems with the medical providers (Weiss et al., 1992). In addition, language barriers and lack of education can result in an inability to follow instructions necessary to ensure recovery from an illness or chronic medical condition (Weiss et al., 1992).

10.2.5. Nutrition Intakes of Individuals from Food-Insufficient Households in the United States (Rose and Oliveira, 1997)

Low income can affect the diet by limiting the selection of foods purchased. Recent efforts by the U.S. Department of Agriculture (USDA) and U.S. Department of Health and Human Services have focused on measuring the prevalence of hunger and food insecurity in the United States (Rose and Oliveira, 1997). The USDA analyzed the diets of preschoolers, adult women, and the elderly with 24-hour recall data from the 1989-1991 Continuing Survey of Food Intake by Individuals (CSFII). The study estimated the extent to which individuals in food-insufficient households were likely to have low intakes of nutrients (Rose and Oliveira, 1997). Dietary intake is affected by factors that are social, cultural, and economic. The study considered variables such as race and ethnicity, household size, and the economic status of the household. Table 10-6 presents descriptive statistics on selected socioeconomic characteristics. It shows that household income and education level of the household head were lower for individuals from the food-insufficient households. Table 10-7 presents weighted means nutrient intakes for both household types expressed as a percentage of the recommended dietary allowance (RDA).

10.3. HOMELESS POPULATION

According to the National Coalition for the Homeless (NCH) (1997), poverty and homelessness are inextricably linked. "Poor people are frequently unable to pay for housing, food, childcare, health care, and education. Often it is housing, which absorbs a high proportion of income, that must be dropped" (NCH, 1997).

To measure homelessness with 100% accuracy is impossible (NCH, 1997). NCH (1997) reported the following estimates:

Year	Number of People	How Estimated
1988	500,000 - 600,000	People found in shelters, soup kitchens, and congregating in the street for 1 week
1996	760,000/night 1.2 - 2 million/1-year	Based on a projected annual increase of 5% using the 1988 estimate
1985-1990	4.95 - 9.32 million	1990 national telephone survey with former homeless people

It appears, according to NCH (1997) “that 12 million of adult residents in the U.S. have been literally homeless at some point in their lives.” Survey response rates and estimate errors were not provided in the fact sheet.

The U.S. Conference of Mayors (U.S. COM) (1997) surveyed 29 cities in the U.S. to assess the status of hunger and homelessness. The data were collected from November 1996 through October 1997. Percentages reported for survey questions do not include non-responses (U.S. COM, 1997). Results of the survey showed that substance abuse and lack of needed services led the list for cause of homelessness in the survey cities. Other causes (in order of frequency) were lack of affordable housing, mental illness and lack of needed services, low paying jobs, domestic violence, and changes and cuts in public assistance (U.S. COM, 1997). In the survey cities, people remain homeless an average of 5 months (U.S. COM, 1997). The composition of the homeless population in the survey cities is presented in Table 10-8, and the population, poverty, and unemployment data are presented in Table 10-9. A survey response rate was not provided.

10.4. REFERENCES

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Table 10-1. Preliminary Estimate of Poverty Threshold
(Yearly Income of Household in Dollars): 1995

Size of Family Unit	Estimated Threshold (in dollars)
1 person	7,761.00
Householder under 65 years	7,929.00
Householder 65 years and older	7,309.00
2 persons	9,935.00
Householder under 65 years	10,259.00
Householder 65 years and older	9,221.00
3 persons	12,156.00
4 persons	15,570.00
5 persons	18,407.00
6 persons	20,808.00
7 persons	23,573.00
8 persons	26,148.00
9 or more persons	31,159.00

Source: U.S. Bureau of the Census, 1996.

Table 10-4. Persons Living in Poverty by Sex: 1966 to 1994^a
[In thousands]

Year	All Persons	Total	Below Poverty				
			Male		Total	Female	
			Number	Percent ^b		Number	Percent
1994	261,616	127,838	16,316	12.8	133,778	21,744	16.3
1993	259,278	126,668	16,900	13.3	132,610	22,365	16.9
1992 ^c	256,549	125,288	16,222	12.9	131,261	21,792	16.6
1992	253,969	123,873	15,700	12.7	130,096	21,180	16.3
1991	251,179	122,418	15,082	12.3	128,761	20,626	16.0
1990	248,644	121,073	14,211	11.7	127,571	19,373	15.2
1989	245,992	119,704	13,366	11.2	126,188	18,162	14.4
1988	243,530	118,399	13,599	11.5	125,131	18,146	14.5
1987	240,890	117,123	14,029	12.0	123,767	18,518	15.0
1986	238,554	115,915	13,721	11.8	122,640	18,649	15.2
1985	236,594	114,970	14,140	12.3	121,624	18,923	15.6
1984	233,816	113,391	14,537	12.8	120,425	19,163	15.9
1983	231,612	112,280	15,182	13.5	119,332	20,084	16.8
1982	229,412	111,175	14,842	13.4	118,237	19,556	16.5
1981	227,157	110,010	13,360	12.1	117,147	18,462	15.8
1980	225,027	108,990	12,207	11.2	116,037	17,065	14.7
1979	217,848	105,542	10,535	10.0	112,306	14,810	13.2
1978	215,656	104,480	10,017	9.6	111,175	14,480	13.0
1977	213,867	103,629	10,340	10.0	110,238	14,381	13.0
1976	212,303	102,955	10,373	10.1	109,348	14,603	13.4
1975	210,864	102,211	10,908	10.7	108,652	14,970	13.8
1974	209,343	101,523	10,313	10.2	107,743	13,881	12.9
1973	207,621	100,694	9,642	9.6	106,898	13,316	12.5
1972	206,004	99,804	10,190	10.2	106,168	14,258	13.4
1971	204,554	99,232	10,708	10.8	105,298	14,841	14.1
1970	202,489	98,228	10,879	11.1	104,248	14,632	14.0
1969	199,848	96,802	10,292	10.6	103,037	13,978	13.6
1968	197,618	95,681	10,793	11.3	101,919	14,578	14.3
1967	195,677	94,796	11,813	12.5	100,861	15,951	15.8
1966	193,389	93,718	12,225	13.0	99,637	16,265	16.3

^a Unpublished historical tables from the March Population Survey.

^b Percent of 100.

^c Revised to reflect changes in weighting and imputation procedures.

Note: Percentages presented in this table are the value out of 100.

Source: U.S. Bureau of the Census, 1995b.

Table 10-5. Selected Economic Profiles for the United States, 1990 Census

Characteristic	All Races	American Indian and Alaska Native	White	Black	Hispanic	Asian and Pacific Islander
Educational Attainment (Persons 25 Years and Older):						
Percent less than 9th grade	10.4	14.2	8.9	13.8	30.7	12.9
Percent 9th to 12th grade, no diploma	14.4	20.6	13.1	23.2	19.5	9.5
Percent high school graduate or higher	75.2	65.3	77.9	63.1	49.8	77.5
Percent bachelor's degree or higher	20.3	8.9	21.5	11.4	9.2	36.6
Employment Status by Sex (Persons 16 Years and Older):						
Percent unemployed, males	6.4	16.2	5.3	13.7	9.8	5.1
Percent unemployed, females	6.2	13.5	5.0	12.2	11.2	5.5
Median Household Income (1989)	\$30,056	\$19,865	\$31,435	\$19,758	\$24,156	\$36,784
Percent Below the Poverty Level by Age:						
All ages	13.1	31.7	9.8	29.5	25.3	14.1
Under 5 years	20.1	43.3	13.8	44.0	33.4	17.5
5 years	19.7	41.7	13.5	42.8	33.9	18.0
6 to 11 years	18.3	37.7	12.5	39.8	32.6	17.3
12 to 17 years	16.3	33.1	11.0	35.5	30.3	16.3
18 to 64 years	11.0	27.8	8.5	23.4	21.3	13.0
65 to 74 years	10.4	26.9	8.4	28.6	21.9	11.3
75 years and older	16.5	33.2	14.6	37.3	27.8	13.5

Note: Data for Native Americans are for residents of the 33 reservation States.

Source: U.S. DHHS, 1993.

Table 10-6. Characteristics of Individuals from Food-Sufficient and Food-Insufficient Households:
Continuing Survey of Food Intake by Individuals (CSFII), 1989 Through 1991

	Preschoolers (1-5 Years)		Women (19-50 Years)		Elderly (65+ Years)	
	Food Sufficient (n-1257)	Food Insufficient (n-123)	Food Sufficient (n-3578)	Food Insufficient (n= 227)	Food Sufficient (n-2179)	Food Insufficient (n-61)
Mean age, y	3.0	2.7	33.9	31.3	73.5	69.9
Mean household per capita income, \$1000	8.9	2.3	14.0	4.2	13.6	4.8
Mean household size, no. persons	4.4	5.1	3.4	4.2	2.0	2.0
Mean education, y ^a	12.9	10.4	13.2	10.7	11.5	6.3
Single head of household, %	16.8	45.3	25.5	46.9	40.1	54.4
Owns home, ^a %	59.1	24.3	60.7	25.4	84.0	40.5
Participates in food assistance program, %	25.4	83.6	14.3	69.3	4.5	44.3
Race/ethnicity, ^a %						
Non-Hispanic White	72.3	39.4	76.8	49.1	85.8	31.5
Non-Hispanic Black	14.1	36.6	11.7	29.0	9.4	50.1
Hispanic	9.4	13.8	8.5	16.8	3.4	9.9
Other	4.3	10.3	3.0	5.1	1.4	8.5
Urbanization, %						
Central city	30.2	40.3	30.5	48.4	33.1	33.1
Suburb	48.0	37.4	49.7	35.0	40.2	28.5
Nonmetropolitan	21.7	22.3	19.8	16.6	26.7	38.4
Region, %						
Northeast	19.5	17.6	21.0	29.4	20.6	20.8
South	34.3	27.7	33.7	25.5	39.1	59.5
West	21.5	26.1	19.3	19.9	21.2	11.5
Midwest	24.7	28.7	26.1	25.2	19.1	8.3

Note: Food insufficiency was indicated by the household respondent's report that there was sometimes or often not enough to eat. Estimates were calculated with CSFII-1989-1991 weights for the sample of individuals reporting 1 day of dietary intake.

^a Refers to head of household.

Source: Rose and Oliveira, 1997.

Table 10-7. Mean Nutrient Intakes Expressed as a Percentage of the Recommended Dietary Allowances of Individuals from Food-Sufficient and Food-Insufficient Households: Continuing Survey of Food Intake by Individuals (CSFII), 1989 Through 1991

Public Health Priority ^a	Nutrient	Preschoolers (1-5 Years), Mean (SE)		Women (19-50 Years), Mean (SE)		Elderly (65+ Years), Mean (SE)	
		Food Sufficient (n-1257)	Food Insufficient (n-123)	Food Sufficient (n-3578)	Food Insufficient (n= 227)	Food Sufficient (n-2179)	Food Insufficient (n-61)
Current	Food energy	92.1 (1.7)	80.8 (5.2)*	73.1 (0.9)	61.3 (3.7)*	77.0 (1.2)	58.3 (8.2)*
	Calcium	102.1 (2.5)	91.5 (7.9)	75.0 (1.3)	56.1 (3.5)*	82.9 (1.8)	56.8 (10.2)*
	Iron	104.3 (3.0)	86.6 (7.4)*	78.5 (1.4)	66.6 (6.3)	138.7 (3.9)	102.8 (17.7)
Potential	Protein	276.7 (5.4)	256.1 (19.6)	131.0 (1.7)	113.1 (6.8)*	118.4 (1.8)	99.2 (19.0)
	Vitamin A	171.9 (6.7)	142.0 (16.5)	104.1 (3.5)	82.2 (7.6)*	141.4 (6.3)	78.4 (17.4)*
	Vitamin E	72.2 (1.9)	70.8 (11.2)	85.4 (2.3)	62.5 (5.4)*	89.5 (4.1)	43.1 (7.6)*
	Vitamin C	202.2 (8.7)	166.2 (20.6)	137.6 (3.5)	95.4 (10.7)*	178.6 (6.6)	144.4 (40.0)
	Vitamin B ₆	120.3 (2.8)	98.3 (9.1)*	85.8 (1.2)	73.3 (5.5)*	94.9 (2.0)	62.6 (11.3)*
	Folate	338.3 (8.7)	322.0 (32.6)	115.5 (2.3)	102.2 (9.0)	143.6 (4.0)	93.5 (18.1)*
	Phosphorus	123.3 (2.4)	110.1 (8.1)	119.1 (1.7)	97.2 (5.6)*	132.2 (2.2)	101.6 (20.2)
	Magnesium	199.4 (4.0)	172.1 (10.9)*	78.3 (1.1)	64.2 (3.6)*	81.9 (1.6)	61.7 (10.8)
	Zinc	71.4 (1.8)	63.0 (4.1)	74.7 (1.1)	66.2 (5.1)	78.4 (4.6)	53.9 (8.9)*
Not current	Thiamin	150.4 (2.6)	135.5 (9.9)	114.9 (1.8)	100.0 (8.7)	132.7 (3.0)	100.7 (19.0)
	Riboflavin	185.4 (3.7)	169.9 (13.6)	116.6 (1.9)	96.0 (6.7)*	134.2 (2.9)	89.8 (14.8)*
	Niacin	136.9 (2.4)	118.1 (10.8)	121.1 (1.6)	103.3 (7.4)*	139.9 (2.7)	99.6 (15.6)*

Note: Food insufficiency was indicated by the household respondent's report that there was sometimes or often not enough to eat.

Estimates were calculated with CSFII-1989-1991 weights for the sample of individuals reporting 1 day of dietary intake.

^A Based on monitoring priority status for nutrients in the *Third Report on Nutrition Monitoring in the United States*.

* P < .05 (for difference in intake between food-sufficient and food-insufficient individuals).

Source: Rose and Oliveira, 1997.

Table 10-8. Composition of the Homeless Population (percentages)

City	Families	Men	Women	Youth	African-American	White	Hispanic	Asian	Native American	Mentally Ill	Substance Abusers	Employed	Veterans	Single Parent Families	Family Members (Children)
Alexandria	43	45	12	0	79	17	3	0	0	27	77	24	15	86	59
Boston	31.1	56.76	11.25	.9	42	38	13	2	2	-- ^a	-- ^b	-- ^c	31	97	65
Charleston	33	67	-- ^d		57	37	7	NA	NA	35	58	17	40	95	75
Chicago	39.3	42.6	17.9	NA	81.1	10	8.1	.5	.3	10.2	22.7	8.3	.8	96.2	68.3
Cleveland	22	52	23	2	78	19	2	.5	.2	25	50	15	10	95	70
Denver	34	48	18	2	24	49	16	0	5	18	32	15	25	80	40
Detroit	26	53	17	4	85	10	3	1	1	33	75	19	29	91	19
Kansas City	72	13	15	> 1	58	35	4	2	1	NA	NA	NA	NA	42	47
Los Angeles	20	50	25	5	50	NA	33	NA	NA	50	40	NA	25	80	71
Louisville	27	48	15	10	45	49	3	3	NA	NA	NA	NA	NA	81	63
Miami	28.2	56.1	15.7	NA	60.8	38.5	NA	.1	.6	18.77	36.2	2.3	9.2	79.9	64.5
Minneapolis	NA	NA	NA	NA	70	15	3	2	10	10	35	15	25	75	55
Nashville	5	82	12	1	43	51	5	> 1	1	25	44	30	23	67	55
New Orleans	26	47	14	13	66	31	1	1	1	22	42	15	26	85	73
Norfolk	> 24	64	12	0	94	5	> 1	NA	NA	NA	NA	NA	NA	95	73
Philadelphia	66.4	23.6	10	NA	88.4	7.4	4	02	--	9	34.3	7.6	6.6	9.1	71.2
Phoenix	30	60	5	5	15	61	26	1	8	20-50	21-34	23	28	80	60
Portland	58	29	12	1	26	54	10	1	3	2	NA	NA	1	73	58
Salt Lake City	28	60	10	2	8	70	13	1	8	57	32	37	35	67	70
San Antonio	58.8	23.9	13.2	4.1	20.7	23.2	55.4	.5	.2	35	28	36	27	83	73
San Diego	26	61	8	5	40	38	18	1	3	33	40	40	35	80	60
San Francisco	25	55	15	5	47	31	13	5	4	43	52	8	40	73	87
Santa Monica	18	42	30	10	43	35	17	2	3	30	64	NA	30	78	15
St. Louis	52	30	18	NA	83	16	.46	.46	.08	24	25	12	4	70	68
St. Paul	33	50	8	9	49.1	33.8	12.4	.6	3.5	3.3	3.3	5.6	NA	46	46
Seattle	25	43	11	4	29	30	13	2	5	35	36	9	12	59	18
Trenton	77	11.5	11.5	NA	NA	NA	NA	NA	NA	30	85	> 10	17	88	67

a 40% of individuals, 10% of families

b 60% of individuals, 20% of families

c 23% of individuals, 20% of families

d included in families %

Source: U.S. COM, 1997.

Table 10-9. Population, Poverty, and Unemployment Data for Survey Cities

City	1990 Population	1990 Poverty Rate Estimate (%)	October 1996 Unemployment Rate (%)	October 1997 Unemployment Rate (%)
Alexandria	111,183	7.1	3.8	2.9
Boston	574,283	18.7	4	3.7
Charleston	80,414	21.6	5.2	4.6
Charlotte	395,934	10.8	3.2	2.6
Chicago	2,783,726	21.6	6.6	5.7
Cleveland	505,616	28.7	9.7	8.5
Denver	467,610	17.1	4.4	3
Detroit	1,027,974	32.4	8.3	6.6
Kansas City	435,146	15.3	8.6	6.9
Los Angeles	3,485,398	18.9	8.7	7
Louisville	269,063	22.6	5.4	4.4
Miami	358,548	31.2	10.5	9.8
Minneapolis	368,383	18.5	4.2	3.4
Nashville	488,374	13.4	3.3	3.4
New Orleans	496,938	31.6	7.7	6.5
Norfolk	261,229	19.3	6.6	5.9
Philadelphia	1,585,577	20.3	7.1	6.6
Phoenix	983,403	10.5	4.4	3
Portland	437,319	14.5	2.7	2.9
Providence	160,728	23.0	6.3	6.6
St. Louis	396,685	24.6	7.2	6.7
St. Paul	272,235	16.7	4.3	3.3
Salt Lake City	159,936	16.4	3.3	3
San Antonio	935,933	22.6	4.3	4.3
San Diego	1,110,549	13.4	5.1	4.4
San Francisco	723,959	12.7	4.2	4.3
Santa Monica	86,905	9.4	5	4
Seattle	516,259	12.4	5.7	3.6
Trenton	88,675	18.1	12	9.3

Source: U.S. COM, 1997.